

Mission Planning Roadmap

2K



ESC/ACU



46 TS



HQ ACC



HQ AMC



HQ AFSOC

US Navy



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Program Manager
Wing Unit C2 Systems
15 Feb 00



Overview

- **Y2K Wrap Up**
- **JMPS Vision**
- **Requirements Process**
- **Systems Procurement Plans**

AFMSS Products

- **Current**

- **Mission Planning System (MPS)**

- **UNIX Based: Sanders**



MPS II

- **Portable Flight Planning Software (PFPS)**

- **Windows 95/NT: Tybrin**



MPS III

- **Future**

- **Joint Mission Planning System (JMPS)**

- **PC-laptop, scaleable, DII-COE compliant: Logicon**



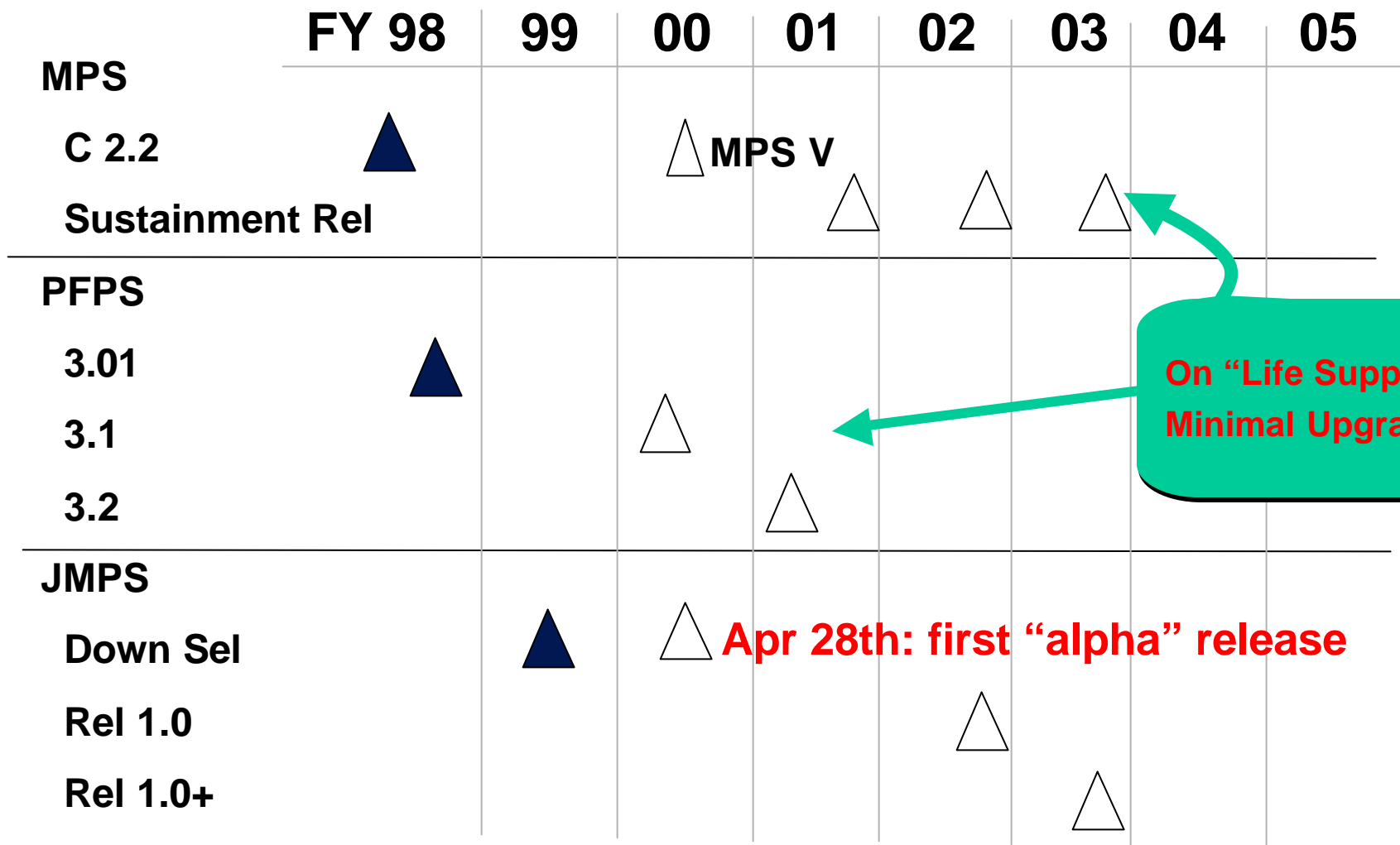
PFPS



MPS IV

AFMSS = MPS + PFPS + JMPS

Program Software Release Schedule



MPS V

On "Life Support"
Minimal Upgrades

Apr 28th: first "alpha" release

Y2K Status Wrap up

Aug '98

Jan '00

Y2K AFMSS Fielded

33

F-16 Blk 30/40/50 EC-130E
EC-130H HC-130H
HC-130N HC-130P
E-3 20/25 C-130H
C-130E LC-130H
WC-130H E-4
T-38
B-52H 2.5 (JDAM, WCMD)
B-52 MDPS
B-2/JDAM
KC-135R
HH-60G
B-1B/JDAM
F-15 MSIP
F-16 Blk 50T4 (HTS)
C-141B
F-15 E
C-17
U-2
F-117A
F-15 MSIP 63V1
B-52 v3.5 w/CALCM, JSOW

Current non-Y2K MP Systems

0

Priority 1

OT Complete,
Fielding:

In OT:

OT Pending

New AFMSS Systems

1

Priority 2

OT Complete, Field

A-10

In OT:

OT Pending:

Post Jan'00

16

ABL
F-22
B-52(JASSM)
MALD
Global Hawk
Predator

RC-135 U/V/W
C-130J
C-9
KC-10
E-8
C-5
E-3
KC-135E
B-52 v 4.0
B-52 v4.5
w/AGM-142

1999 Year in Review

Ingredients for Success

- 1. Extended Team-work**
- 2. Contractor Performs**
- 3. Senior Leadership Support**
- 4. Good Plan to Execute**

“There is no end-state to mission planning.”
CSAF

Self-Assessment

Marry & Name

Hate

Coping

Like

Kids After It

MPS I

MPS II

MPS III

MPS V

PFPS '94

PFPS '99

JMPS 1

JMPS 2

ESC's Idea for JMPS Hardware Suite



JMPS

SV: 174.6 ft³

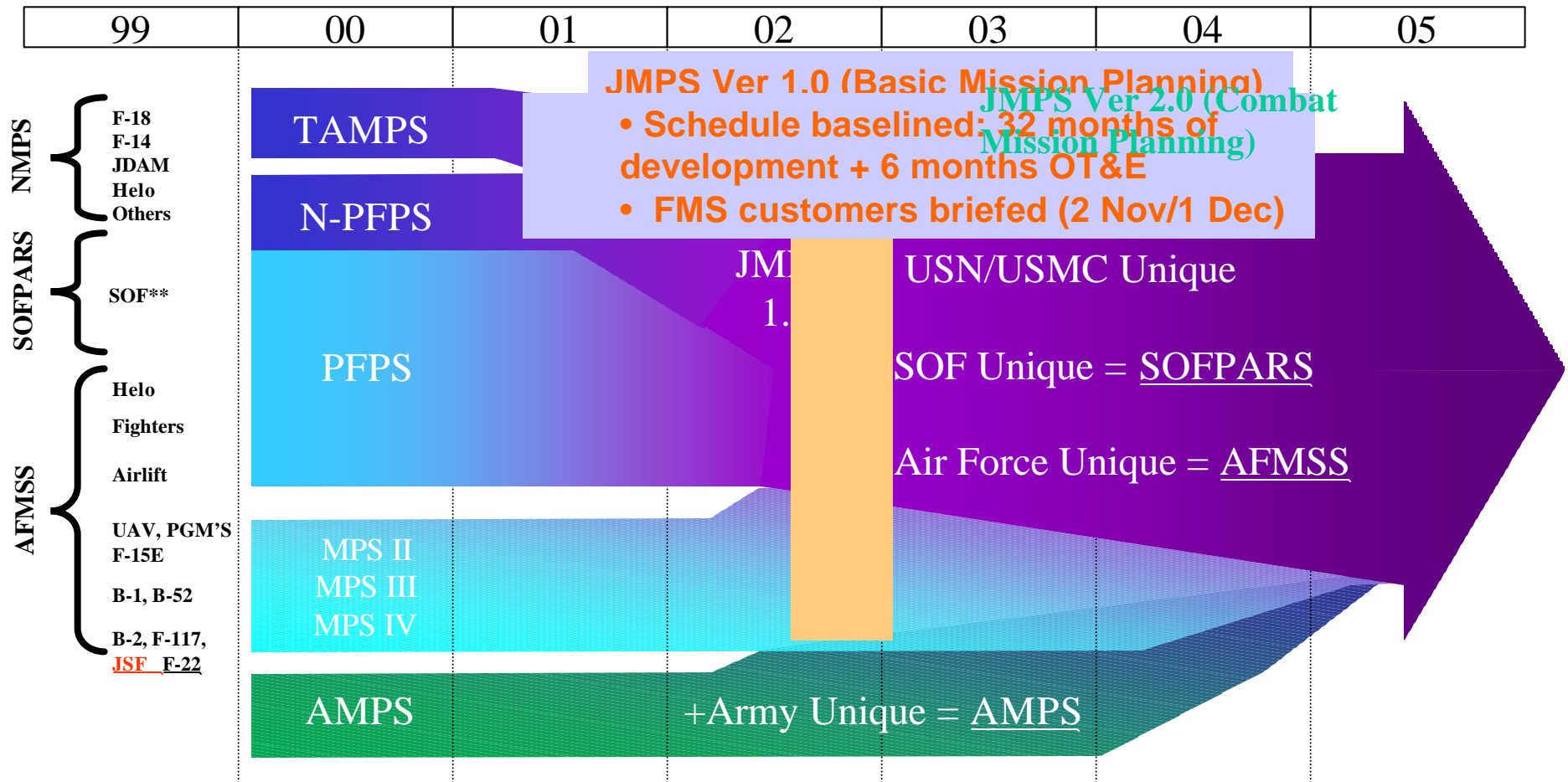
Cases : 15

Wt: 1495 lb

FP: 34.8 ft²

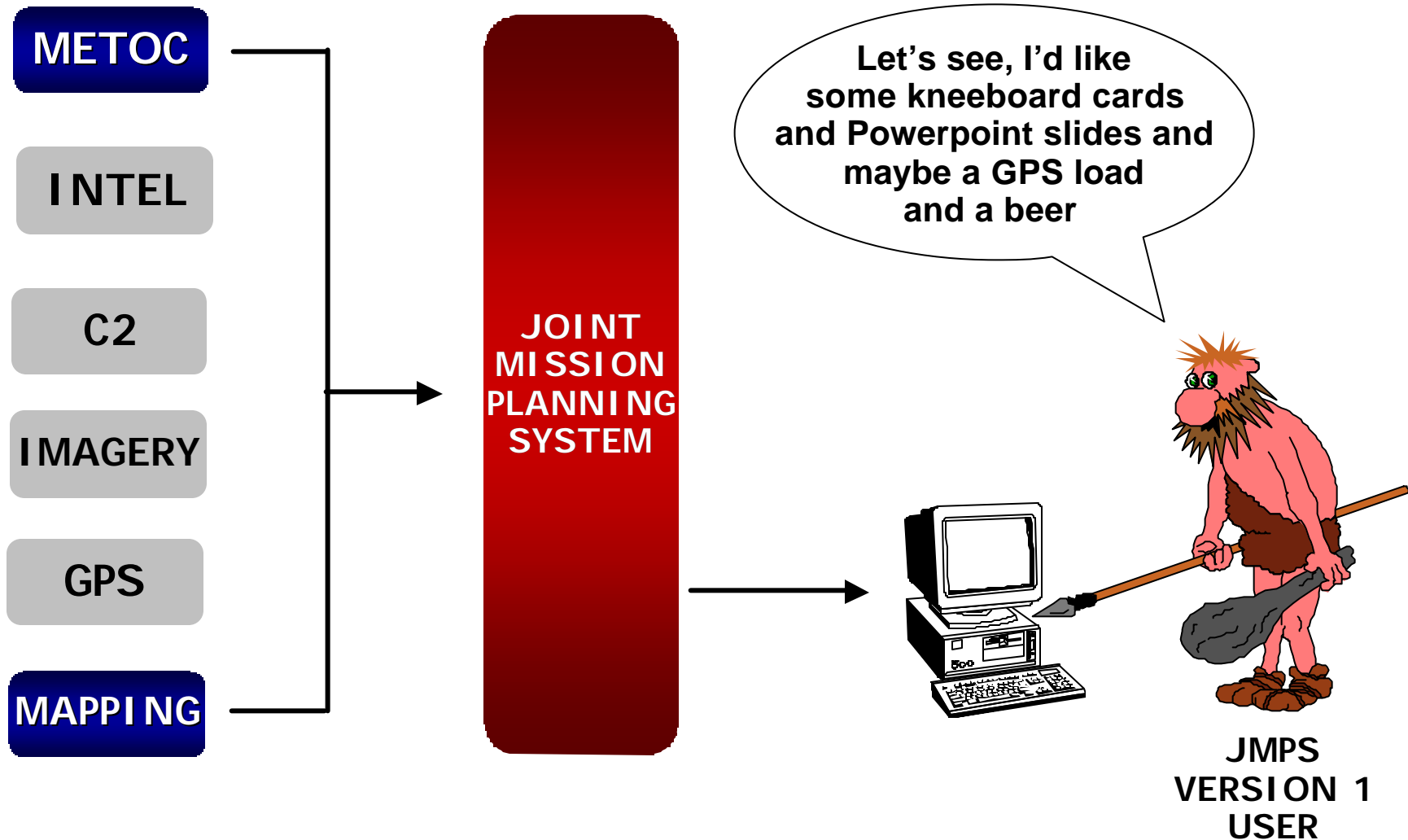
Just Kidding!

JMPS ROADMAP



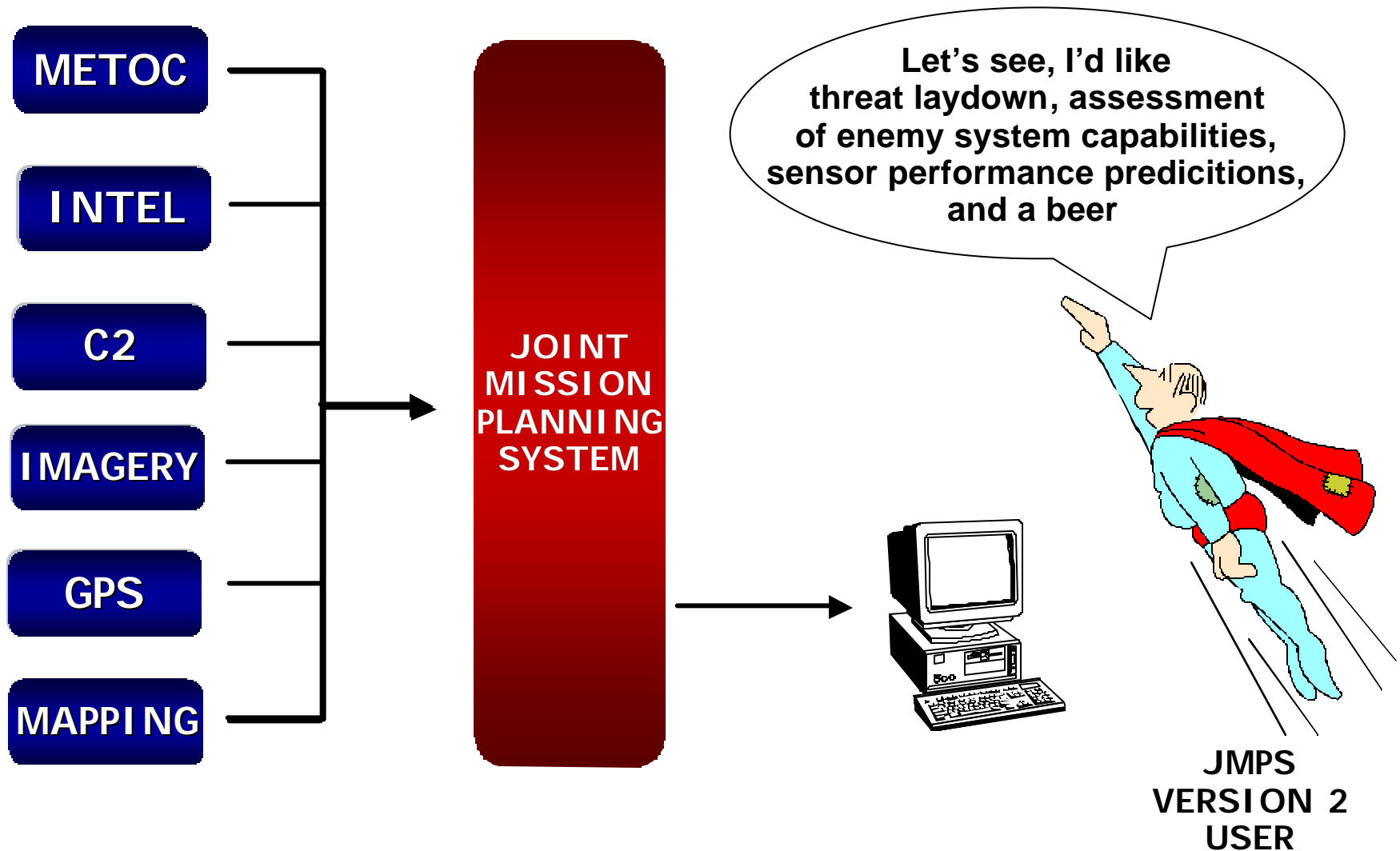
What's The Problem

JMPS Basic Mission Planning



What's The Problem

JMPS Combat Mission Planning



How To Build a JMPS...

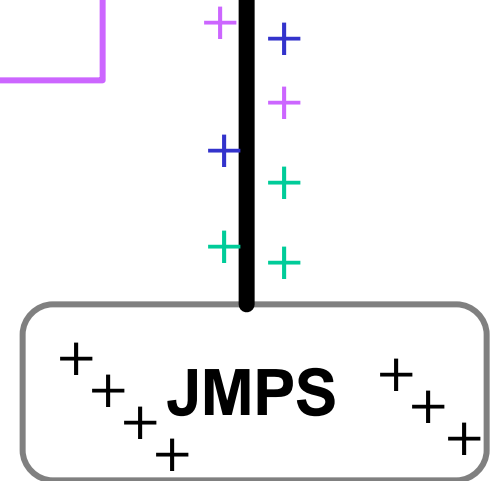
...that is the question

$$\text{PFPS} + \text{MPS} = \text{JMPS} (?)$$

New MP Capability Ideas



A Better Idea



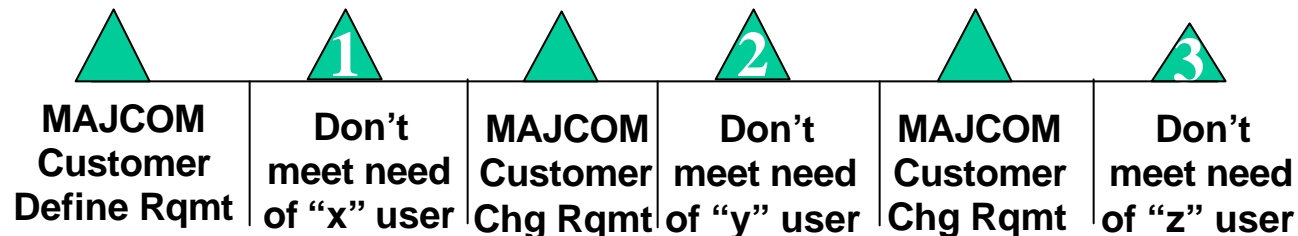
JMPS Common Component (CC) Advocacy

- Lobbying MAJCOMs for CC Advocacy
 - Impact
 - Window “closed” WRT influencing JMPS architecture
 - Multi-Level Security (MLS)
 - JSF funded Phase I study re: architectural issues
 - MLS not in JMPS V1.0: Remains unfunded req’t
 - Supported by ORD; No ACC \$
 - Supported by JSF and F-22; No \$ committed
 - Other AF-USN common components:
 - GATM, PGMs, and CLOAR
 - Require champions to define requirement and identify funding

ESC Initiatives Based on Lesson Learned

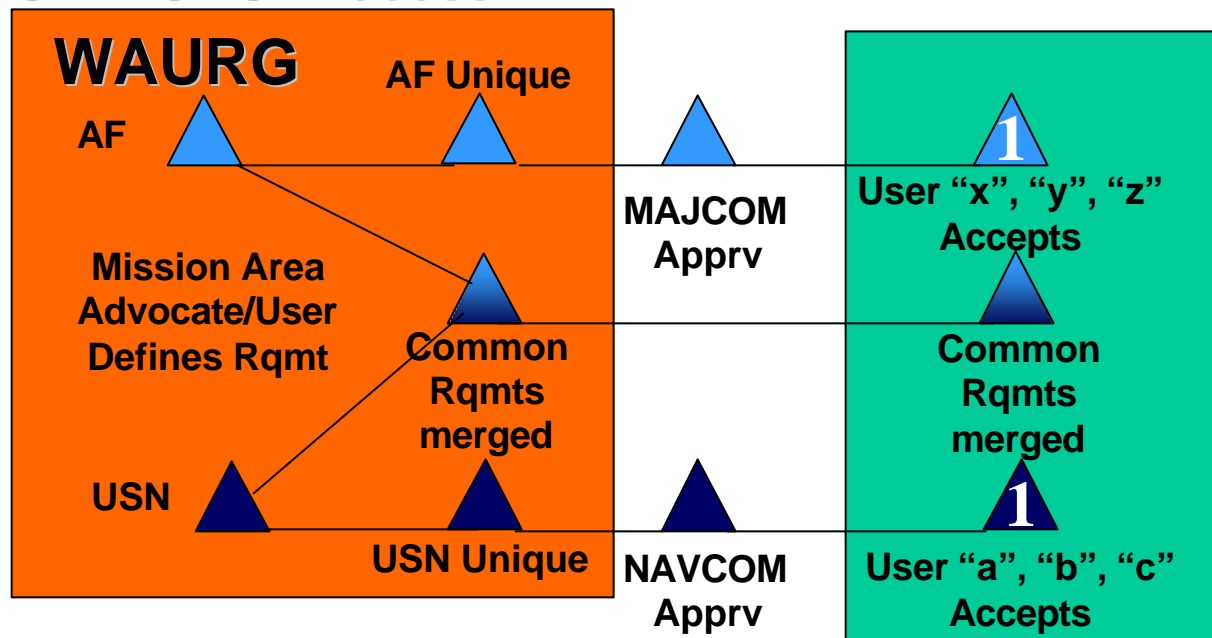
- Requirements viability

- AFMSS



- Rebaselining impacts Cost, Schedule, and Performance

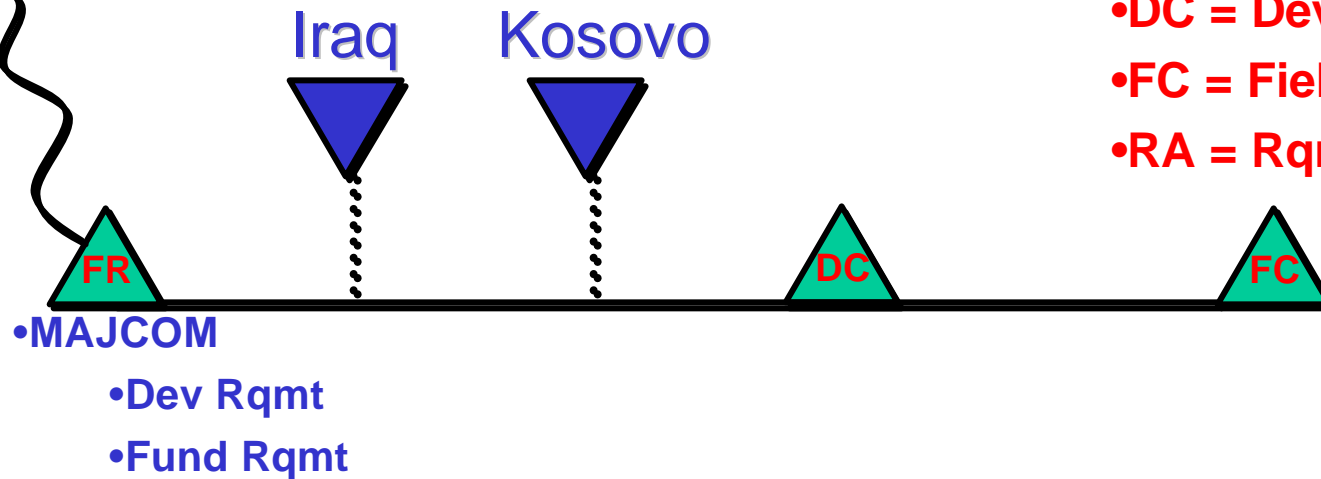
-- JMPS WAURG Process



Reducing Requirements Cycle Time

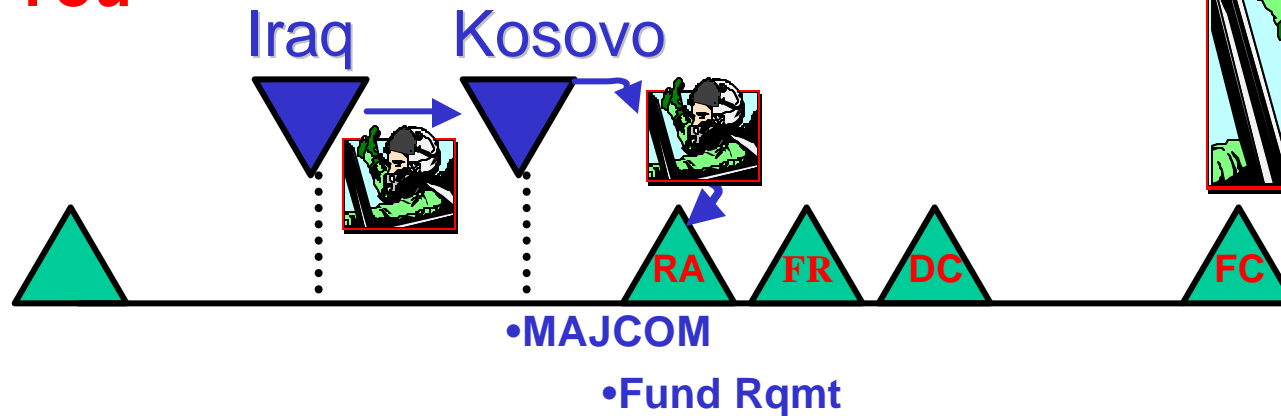
- FR = Fix Rqmt
- DC = Devel Capability
- FC = Field Capability
- RA = Rqmt Analysis

Desert Storm

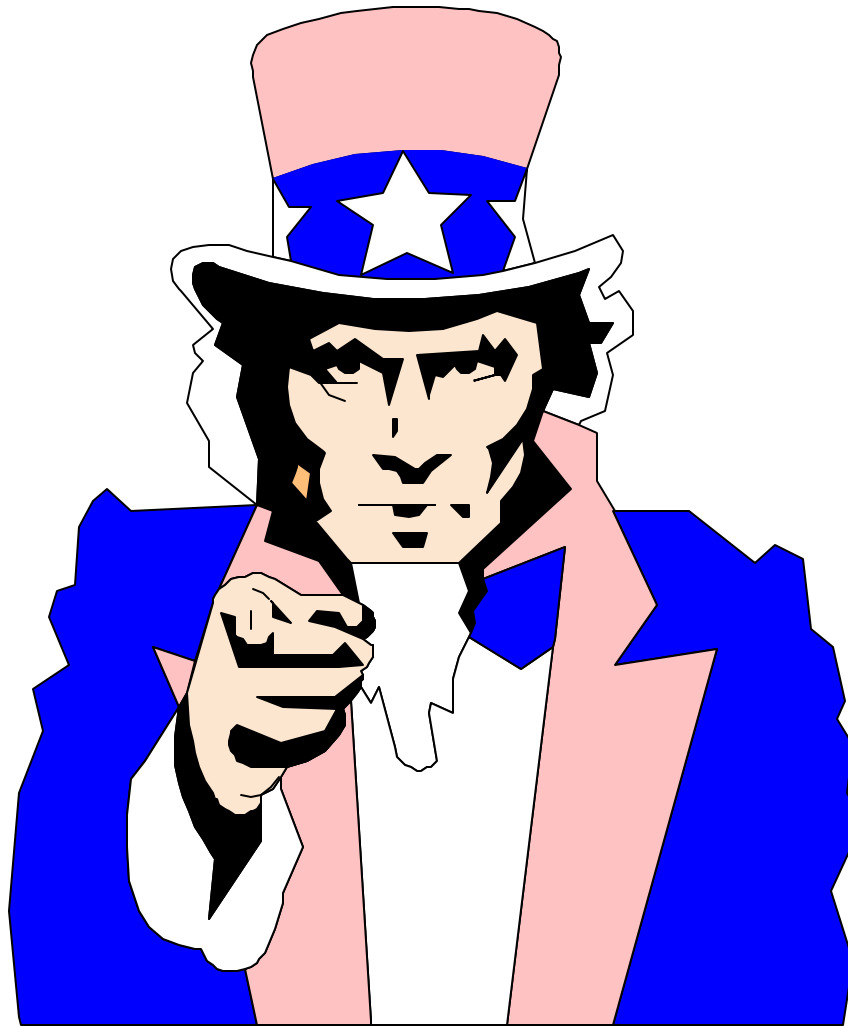


Requirements Currency and Response Time

= You



The WAURG needs You!



MPS III and MPS V Comparison



MPS III

Motherboard: Sun SPARC20
Processor: Dual 150MHz HyperSPARC
RAM: 128MB
Graphics Card: None
Bus: SCSI Wide
CD-ROM: 12X Drive
Tape Drive: 4mm



MPS V

Motherboard: Sun Ultra Axi
Processor: One 440MHz
RAM: 512MB
Graphics Card: 3D graphics card w/ 15MB RAM
Bus: Integr 16 bit SCSI Ultrawide PCI card for HDD
CD-ROM: 40X Drive
Tape Drive: 4mm DDS-3 DAT Tape Drive

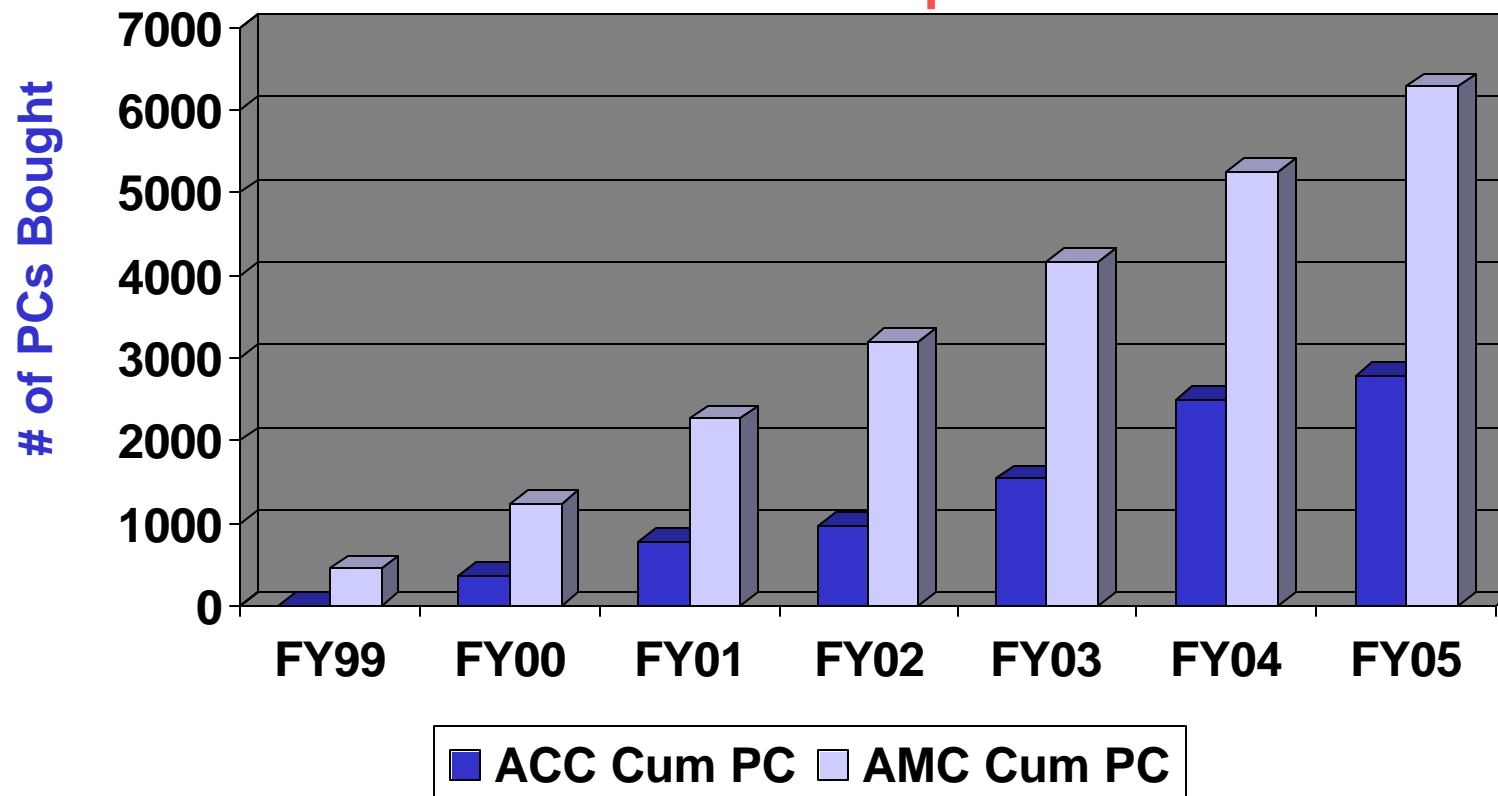
•Basic MPS-III and MPS-V chassis are the same

PC Investment Plan (Cumulative)

MAJCOM Objectives:

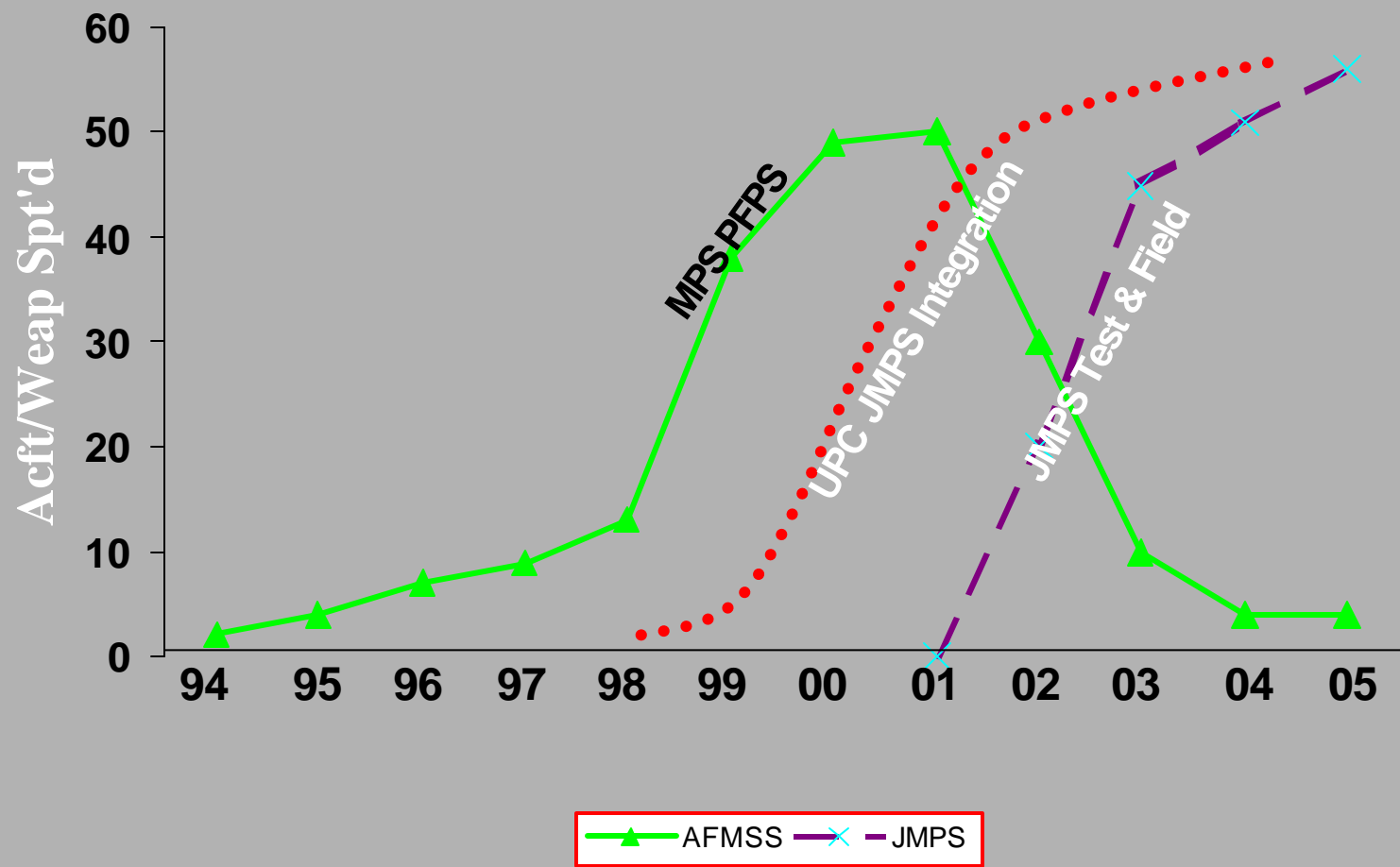
ACC: 1 pc/PAA

AMC: 1 pc/aircrew



Note: These #s include technology refreshment

Migrating from MPS/PFPS to JMPS



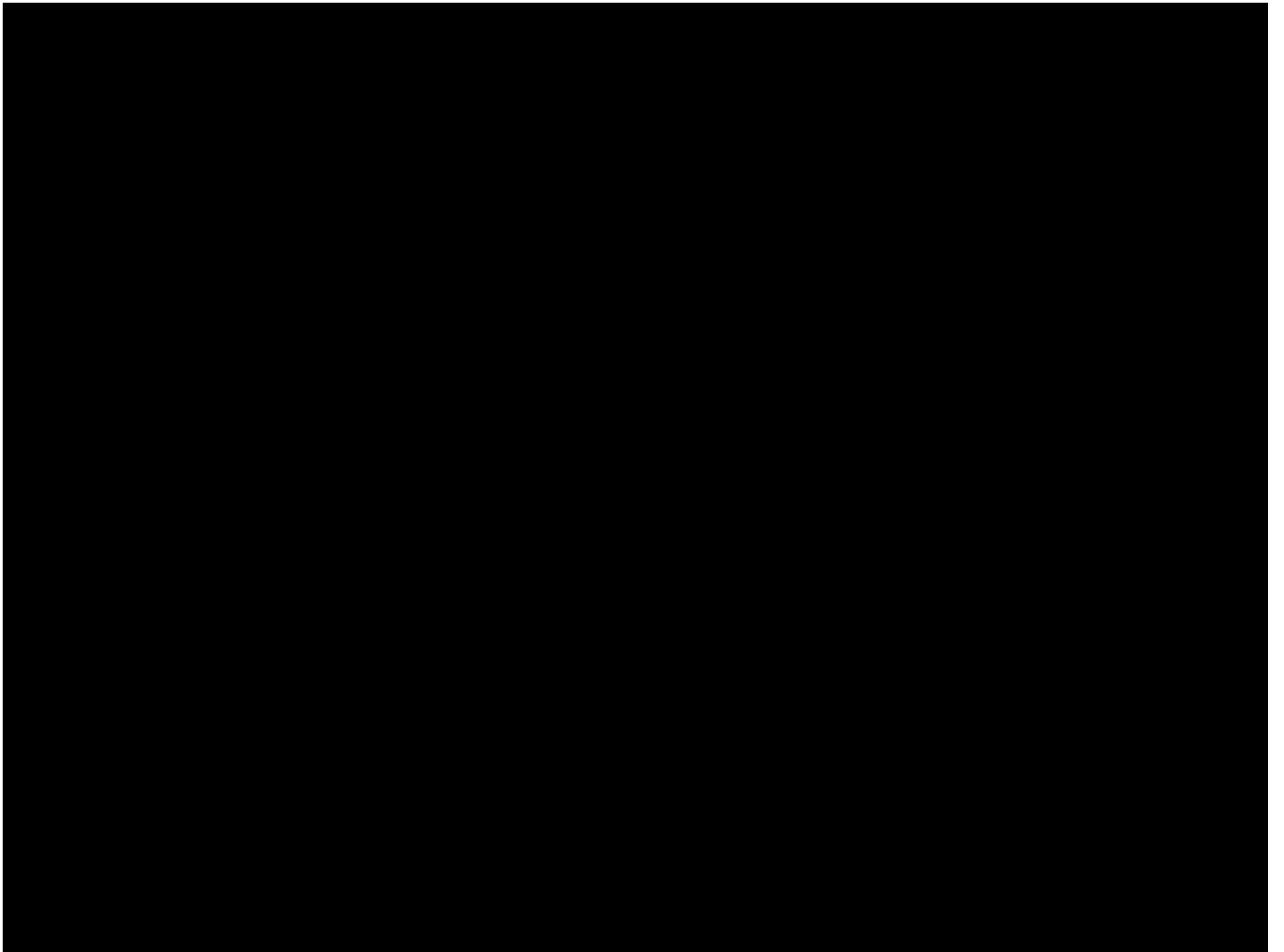
Integrated C2 Wing/Unit Systems

- CAF C2 SPO expands ESC/ACU role (a/o 1 Jan)
- Increase focus on Integrated C2 & Wing Ops
 - Encompasses products in and destined for WOC/SOC
 - ESC/ACU Develops: AFMSS/JMPS
 - ESC/ACU Integrates: Intell Syst, Planning Cell, Sched, Command Post, Plans
 - Forcing Function for unit-level systems
 - Service Wing/Unit needs of all customers

ESC/AC One-Stop Shopping for WOC/SOC Capability

Aircrew Input Gets It Done

- **Aircrew comments carry weight (pro & con)**
 - You all have the 1999 systems
 - Hopefully better
 - MP (PFPS and MPS) need aircrew advocacy
- **MAJCOM/XOs influence allocation of \$\$s**
 - Influence XOs when say “We can’t do mission x”
- **We rely on you to:**
 - Push the current tools envelope
 - Continue to describe needed fixes via MAJCOMs, SSRs, etc.
 - Pass on ideas for new MP potential

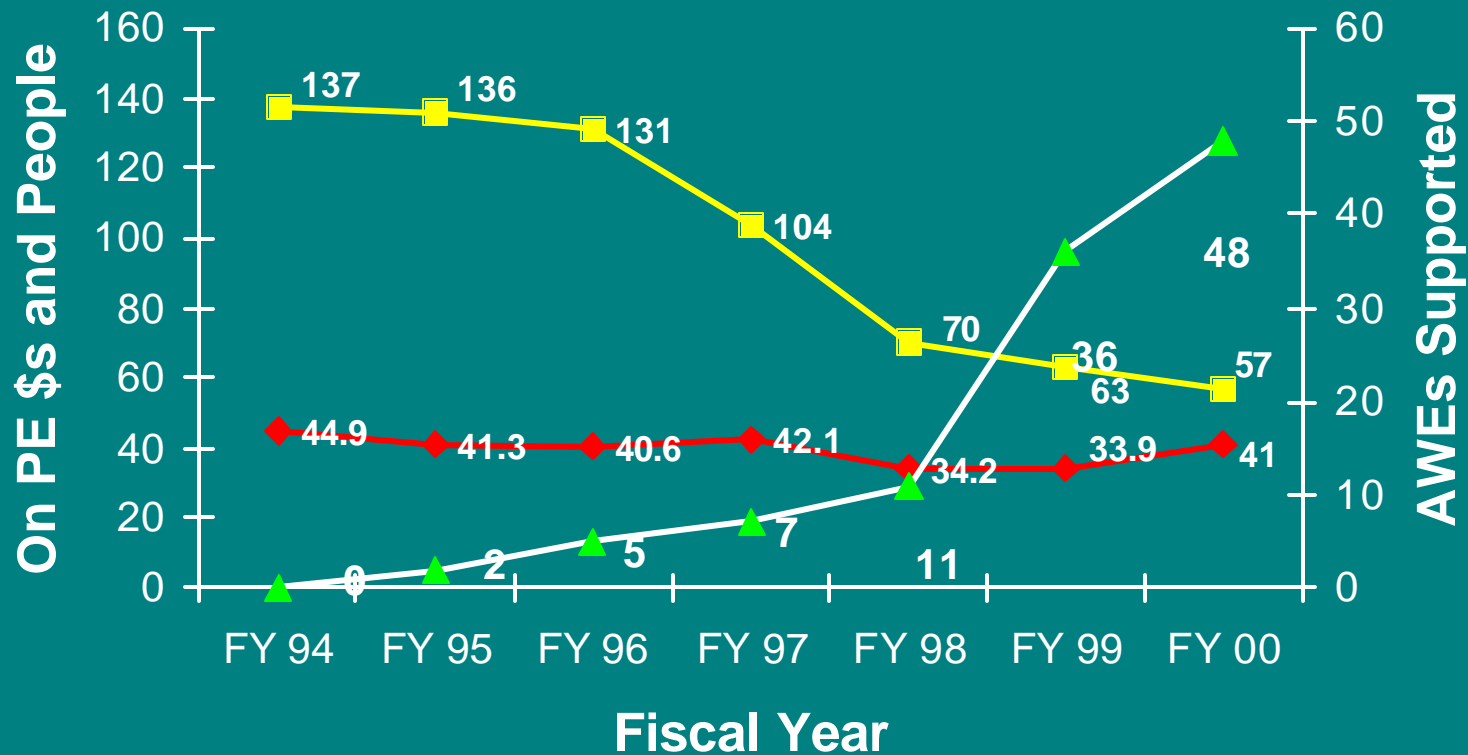


MPS Configuration - Improvements

<u>Component</u>	<u>MPS-III</u>	<u>MPS-V</u>
<i>Motherboard:</i>	Sun SPARC20	Sun Ultra Axi
<i>Processor:</i>	Dual 150MHz HyperSPARC	One single 440Mhz Processor
<i>RAM:</i>	128MB RAM memory	512MB RAM memory
<i>Monitor:</i>	Integrated 20" 1280x1024 LCD	Integrated 20" 1280x1024 LCD
<i>Graphics Card:</i>	NONE	Creator 3D graphics card with 15MB RAM
<i>Bus:</i>	SCSI Wide	Integrated 16 bit SCSI UltraWide PCI card for HDD
<i>Hard Drives:</i>	Four 9 GB SCSI	Two 18 GB SCSI UltraWide
		Two 36 GB SCSI UltraWide
<i>CD-ROM:</i>	CD-ROM 12x Drive	CD-ROM 40x Drive
<i>Tape Drive:</i>	4mm Tape Drive	4mm DDS-3 DAT Tape Drive

Note: Basic chassis dimensions of the MPS-III and MPS-V are the same, giving the MPS communi the capability to upgrade.

US AFMSS Personnel & On-PE (Organic, MITRE, TEMS) Compared to Aircraft/Weapons Supported



—■— Total Strength —◆— BA \$ —▲— Weap Syst

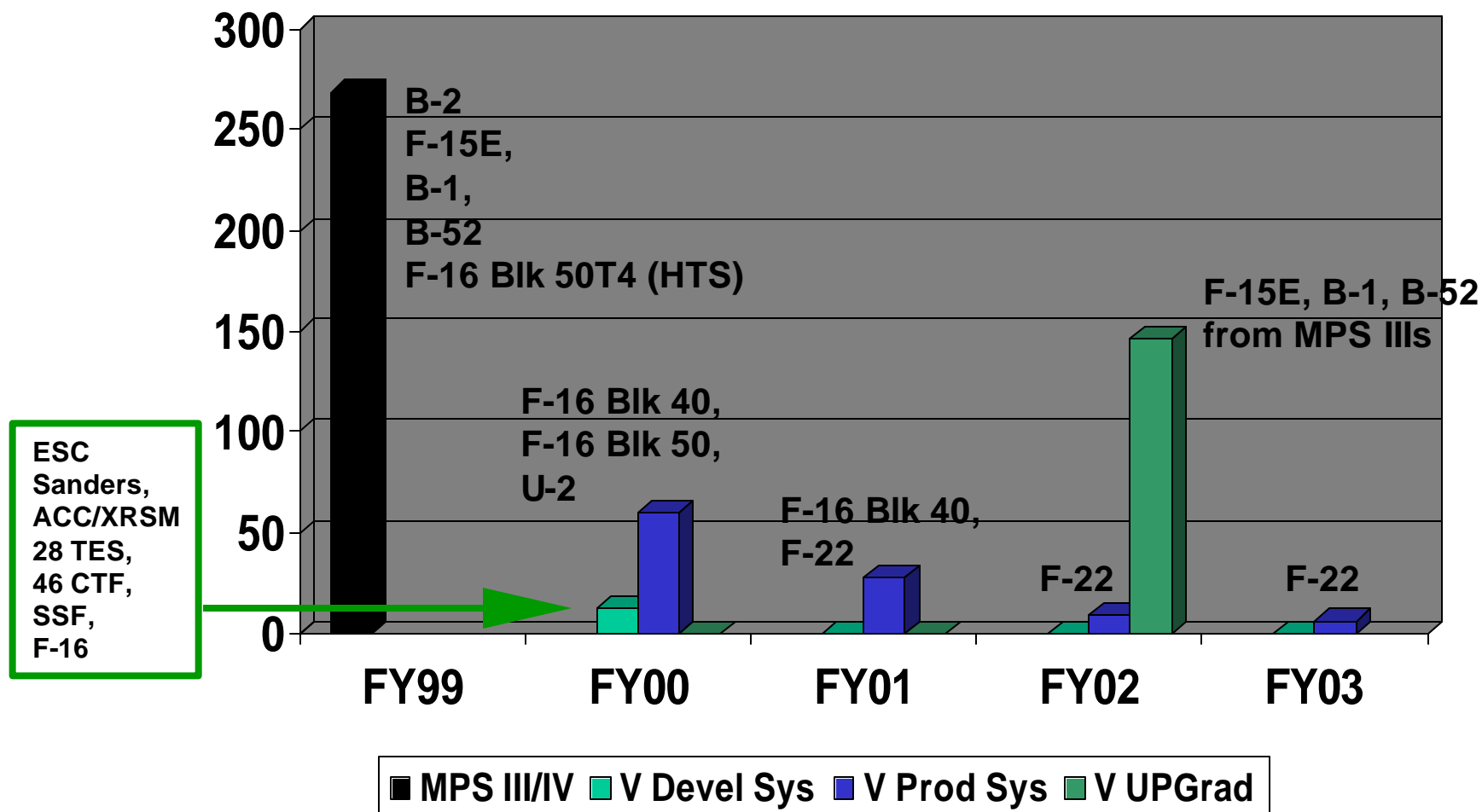
MPS-V Delivery Schedule

	FY00	FY01	FY02	FY03
PLATFORM	Development Systems (12): ESC, Sanders, ACC/XRSM, 28 TES, 46 CTF, SSF, F-16 <i>(dev). Late Feb 00 delivery</i> Production Systems (60): F-16 (block 40), F-16 (block 50), U-2. <i>Late June 00 delivery</i>	New Systems (27): F-16 (block 40), F-22 Total: 27	New Systems (9): F-22 Upgrade Systems (146): F-15E, B-1, B-52 Total: 155	New Systems (6): F-22 Total: 6

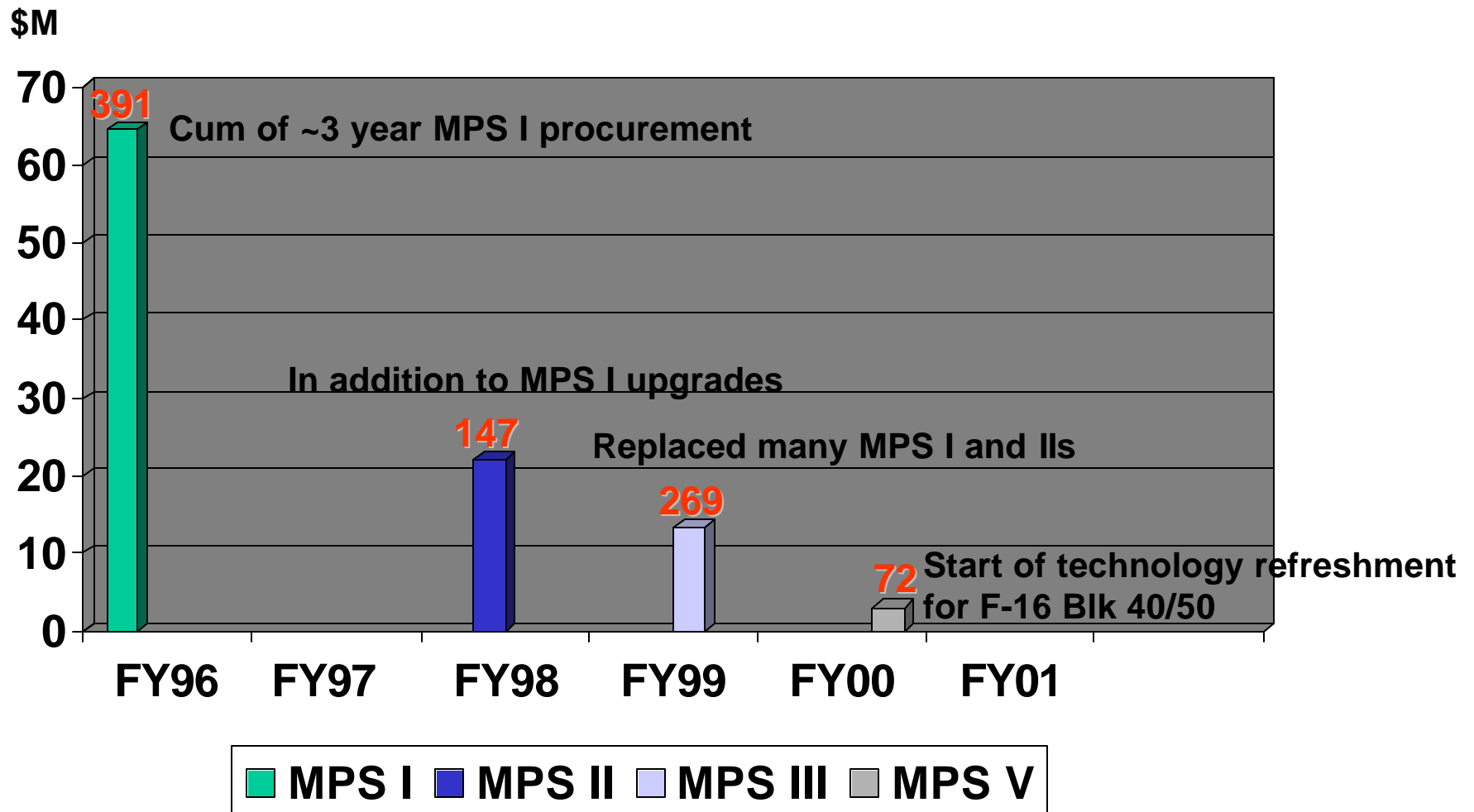
MPS Computing Comparison

Task	MPS-III	MPS-V	% Faster
Boot-up to Login	4 minutes	2.5 minutes	38%
Login to Pilot	40 secs.	11 secs.	73%
New Mission	23 secs.	1 sec.	96%
Open Route Editor	25 secs.	1 sec.	96%
20 Point Route Editor	45 secs.	11 secs.	76%
Composite Threat - 23 Threats (SAM)	28 secs.	5 secs.	82%
Composite Threat - 23 Threats (Det.)	13 secs.	4 secs.	69%
Route Fly Through - 100 Frames (points 2-14)	50 minutes	19 minutes	62%
<i>-Terrain and Imagery</i>			
Loaded Japan DTED 039B	12 minutes	3:46 minutes	69%
Changing Maps	2-12 secs.	max 1.5 secs.	75%
Moving Map Center	2-12 secs.	max 1.5 secs.	75%
Loading Jog A	8:35 minutes	4:45 minutes	45%

MPS V Procurement/Fielding Plan



UNIX Cost Reductions



Red #s are fielded system